88093

9.4310

S/110/60/000/003/003/004
E041/E421

AUTHORS: [redacted], Candidate of Technical Sciences and
Sarbatov, R.S., Engineer

TITLE: Characteristics of Power Transistors, Type П4 (P4) and П207 (P207) for Use in a Switching Regime

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.3, pp.60-65

TEXT: It is one of the advantages of operating the transistors in the switching regime that the power output from such circuits may be several times larger than the power dissipated within the transistor itself. Unless precautions are taken however when the characteristics of the transistor are measured they may easily be destroyed by the extreme conditions. Suitable equipment has been developed for this purpose by the laboratory of the Department for Electrical Equipment of Industrial Establishments at the Moscow Power Engineering Institute. A circuit diagram is given.
The characteristics presented are base voltage versus base current and collector voltage versus base current for constant collector

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S/110/60/000/003/003/004
E041/E421

Characteristics of Power Transistors, Type П4 (P4) and П207 (P207), for Use in a Switching Regime

current. Triodes type П3 (P3), П4 (P4) and П207 (P207) may be catered for with base currents up to 8 A and collector currents up to 10 A at intervals of 0.5, 1 and 2 A. By using supplementary resistors, the collector current may be increased up to 20 A or reduced below 0.5 A. The collector current is set manually from a d.c. source by switching a set of resistors connected to a 110 V supply. The collector voltage at large collector currents is read by comparison with a battery through a diode. A voltage divider and switch are used for calibrating the oscillograph screen. Common emitter characteristics are presented for the П4Б (P4B) device and for the P207. An equivalent circuit is derived for the saturation zone. The component values for a P4B being Rb 0.033 ohm, Re 0.022 ohm, Rc 0.01 ohm. These values together with the currents measured in the characteristics show that the weakest part of a high power transistor is the emitter junction where most of the power is dissipated. The current gain β varies with base current; in the saturation zone

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88093

S/110/60/000/003/003/004
E041/E421

Characteristics of Power Transistors, Type П4 (P4) and П207 (P207), for Use in a Switching Regime

the maximum possible value of β for a P4B is 5, and for a P207 is 2. The general conclusion of the study is that there may be a falling-off in performance if the triode is operated in a very saturated condition and some intermediate choice of operating condition may be preferable. There are 10 figures.

SUBMITTED: June 9, 1959

Card 3/3

SANDLER, A. S., DOC TECH SCI, "~~THE~~ PROBLEM in the ~~OF~~ CREATI~~NG~~on of CONTROLLABLE A.C. ~~ALTERNATING CURRENT~~ ELECTRIC~~AL~~ DRIVES." GENERALIZING report ~~PAPER~~ ON works ~~RESEARCH~~ SUBMITTED IN COMPETITION FOR academic ~~A UNIVERSITY~~ DEGREE OF DOC OF TECH SCI. LENINGRAD, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. LENINGRAD ELECTR~~O~~ical Eng ~~TECH~~ INST IMENI V. I. UL'YANOV (LENIN)). KL-DV, 11-61, 216).

SANDLER, A.S., kand.tekhn.nauk; SARBATOV, R.S., inzh.

Inertial characteristics of junction transistors in keying operation with an active load. Vest. elektroprom. 32 no.7: 58-65 Jl '61. (MIRA 14:10)

(Transistor circuits)
(Pulse techniques (Electronics))

CHILIKIN, M.G., doktor tekhn.nauk prof.; SANDLER, A.S., kand.tekhn.nauk,
dotsent SHAPIRO, L.Ya., inzh.

Two-motor machine-valve stage with semiconductor rectifiers.
Elektrichestvo no.8:50-56 Ag '61. (MIRA 14:10)

1. Moskovskiy energeticheskiy institut.
(Electric driving)

SANDLER, A.S., kand. tekhn. nauk, dotsent

Economical regulated electric drive for large centrifugal blowers.
Trudy MEI no.38:35-52 '62. (MIRA 17:2)

SANDLER, A.S.; SHAPIRO, L.Ya.

Selecting the controlled electric drive of centrifugal pumps.
Gaz. prom. 7 no.2:48-49 '62. (MIRA 17:6)

S/196/63/000/001/032/035
E194/E155

AUTHORS: Sandler, A.S., and Sarbatov, R.S.

TITLE: A static frequency-convertor based on power semiconductor triodes, for controlling the speed of induction motors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.1, 1963, 3, abstract 1 K 16. (Tr. Mosk. energ. in-ta, no.38, 1962, 53-71)

TEXT: Power-frequency voltage is first rectified and then inverted into a three-phase voltage of the required frequency. The convertor consists of three main components: a controlled power-rectifier, an invertor and a control system. The latter includes a master generator, a phase-shift device and an amplifier. The circuit is given, operating principles are described and the performances of the individual components of the convertor are given. The output frequency and voltage can be adjusted independently of one another. Test results are given when operating as a static frequency-convertor driving an electrical spindle type ДШ -02/2 (DSh-02/2) of 0.2 kW at 200 c/s.

Card 1/2

A static frequency-convertor based... S/196/63/000/001/032/035
E194/E155

See also Ref.zh.E, 1962, 16 K 13.

[Abstractor's note: Complete translation.]

Card 2/2

SANDLER, A.S., kand.tekhn.nauk; SARBATOV, R.S., inzh.; KUDRYAVTSEV, A.V., inzh.; ZEL'DIN, V.Sh., inzh.; NIKOL'SKIY, A.A., inzh.

Static frequency converters for regulating the speed of asynchronous motors. Vest. elektroprom. 33 no.3:45-51 Mr '62. (MIRA 15:3)
(Frequency regulation) (Electric motors, Induction)

SANDLER, A.S.; SOKOLOV, N.G.

[Collection of automatic control systems for electric drives of machine tools] Sbornik skhem avtomaticheskogo upravleniia elektroprivodami metallorezhushchikh stankov. Izd.2., perer. i dop. Moskva, Mosk. energ. in-t, 1963. 31 p. (MIRA 16:10)

(Machine tools--Electric driving)
(Automatic control)

SANDLER, Abram Solomonovich, doktor tekhn.nauk, prof.; SHAPIRO, Leonid Yakovlevich, aspirant

Mechanical characteristics of a two-motor rectifier-machine stage. Izv. vys. ucheb. zav.; elektromekh. 6 no.6:671-675 '63. (MIRA 16:9)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy Moskovskogo energeticheskogo instituta.

(Electric driving)

SANDLER, A.S., doktor tekhn. nauk, prof. (Moskva); SHAPIRO, L.Ya., inzh. (Moskva)

Transients in machine and rectifier units. Elektrichestvo no.1: 59-66 Ja '64. (MIRA 17:6)

SANDLER, A.S., doktor tekhn. nauk, prof.

Use of a commutator-type frequency converter. Elektrichestvo no.10:69-73 O '64. (MIRA 17:12)

1. Moskovskiy energeticheskiy institut.

CHILIKIN, Mikhail Grigor'yevich; SANDLER, A.S., red.

[General course in electric drives] Obshchii kurs elektroprivoda. Izd.4., dop. i perer. Moskva, Energiia, 1965. 542 p. (MIRA 18:7)

L 3277-66 EWT(1)/EPA(s)-2

ACCESSION NR: AR5014348 UR/0271/65/000/005/A032/A033
62-52:621.314.26

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 5A222 20 B

AUTHOR: Sandler, A. S.; 44,55 Kudryavtsev, A. V.; 44,55 Sarbatov, R. S.; 44,55 Nikol'skiy, A. A.; 44,55 Zel'din, V. Sh. 44,55

TITLE: Static frequency changer with thyristors intended for speed regulation of high-speed induction motors 21,44,55

CITED SOURCE: Tr. Mosk. energ. in-ta, vyp. 56, 1964, 59-74

TOPIC TAGS: frequency changer, induction motor 44,55

TRANSLATION: A frequency changer designed with VKDU-20 thyristors consists of a power controlled rectifier, a 3-phase inverter, and a control system that comprises a frequency-setting unit, rectifier and inverter control units, a protection unit, and a supply source. The changer has an output power of 3-kva and a voltage controllable within 26—130 v at frequencies of 200—1000 cps,

Card 1/2

L 3277-66

ACCESSION NR: AR5014348

respectively. Oscillograms are presented of motor voltages and currents under steady-state conditions and also the oscillograms which illustrate starting, braking, and speed regulation of the motor. Cited advantages of the changer are: the possibility of continuous independent control of frequency and voltage, small weight, and small size. Cited disadvantages are: impossibility of efficient generator-type braking and greater installed capacity of equipment at higher (close to 1000 cps) frequencies. Calculation of transformers and coincidence circuit is indicated. Figs. 12, tabs. 2.

SUB CODE: EE ENCL: 00

Card 2/2

BASHARIN, A.V.; BYSTROV, A.M.; VESHENEVSKIY, S.N.; VORONETSKIY, B.B.; DROZDOV, N.G.; DRUZHININ, N.N.; IL'INSKIY, N.F.; PETROV, I.I.; PETROV, L.P.; SANDLER, A.S.; SOKOLOV, M.M.; CHILIKIN, M.G.

Professor Andrei Trifonovich Golovan, 1901-1964; obituary. Elektrichestvo no.1:92 Ja '65. (MIRA 18:7)

SANDLER, A.S., doktor tekhn. nauk, prof.; SHAPIRO, L.Ya., kand. tekhn. nauk

Transient processes in a stage with two-zone speed control. Elektrichestvo no.8:14-19 Ag '65. (MIRA 18:9)

1. Moskovskiy energeticheskiy institut.

SANDLER, A.S., prof.; SARBATOV, R.S., inzh.

Heating of self-ventilating induction motors with frequency control. Elektrotekhnika 36 no.11:4-6 N '65. (MIRA 18:11)

SANDLER, A.S., doktor tekhn. nauk, prof.; SHAPIRO, L.Ya., inzh.

Static characteristics of machines with dual feed and double-zone regulation of angular velocity. Elektrichestvo no.12: 61-67 D '64. (MIRA 18:12)

1. Moskovskiy energeticheskiy institut.

7

L 11546-66 EWT(d)/EWP(k)/EWP(l)

SOURCE CODE: UR/0105/65/000/001/0092/0092

ACC NR: AP6005030

AUTHOR: Basharin, A. V.; Bystrov, A. M.; Veshenevskiy, S. N.; Voronetskiy, B. B.; Drozdov, ~~N. G.~~; Druzhinin, N. N.; Il'inskiy, N. F.; Petrov, I. I.; Petrov, L. P.; Sandler, ~~A. B.~~; Sokolov, M. M.; Chilikin, M. G.

30
29
B

ORG: none

TITLE: Professor Andrey Trifonovich Golovan

SOURCE: Elektrichestvo, no. 1, 1965, 92

TOPIC TAGS: electric engineering, electric engineering personnel

ABSTRACT: A brief obituary containing the following biographical information: Deceased was a doctor of technical sciences, a professor (Department of Electrical Equipment for Industrial Enterprises) of the Moscow Power Engineering Institute for the past 30 years, and a staff member since 1931 of the TsNIITMash (Central Scientific-Research Institute of Heavy Machine Building). Died 15 Sep 64, at age 63, after a long and severe illness. In 1926, after graduating from the Leningrad Electrical Engineering Institute im. Ul'yanov, deceased became director of a substation within the Gor'kiy GRES. At the TsNIITMash, the deceased worked out the methods for computing the electric drive of presses, drop hammers and other machine tools with percussion loads. The monograph on these methods has gained wide professional recognition. Deceased trained several thousand engineers and over 30 doctors and candidates of science. He authored over 50 scientific works, including the textbook "Osnovy Elektroprivoda" (Fundamentals of Electric Drive)

UDC: 621.34(093.32)

Card 1/2

L 11546-66

ACC NR: AP6005030

published in 1948, with a revised second edition in 1959. He was awarded the Order of the Badge of Merit twice, and other decorations. Orig. art. has: 1 figure. [JPRS] 14

SUB CODE: 09 / SUBM DATE: none

HW.

Card 2/2

L 05058-67 EWT(d)/EWT(1)/EWP(v)/EWP(k)/EWP(1)/EWP(h) UR/

ACC NR: AM6014902 Monograph

19/18
B+1

Sandler, Abram Solomonovich; Sarbatov, Rudol'f Sergeyevich

Electric drives with semiconductor control; frequency transformers for control of
a asynchronous motors (Elektroprivody s poluprovodnikovym upravleniyem;
b preobrazovateli chastoty dlya upravleniya asinkhronnymi dvigatelyami).
Moscow, Izd-vo "Energiya," 1966. 143 p. illus., biblio. 15,500 copies
printed. Series note; Biblioteka po avtomatike, vyp. 159.

TOPIC TAGS: transistorized frequency converter, transistorized inverter, voltage regulator, transistor switch

PURPOSE AND COVERAGE: This book is intended for engineers working in the field of automatic electric propulsion, and may also be useful to students of advanced courses of corresponding specialties. The book deals with the principles of frequency conversion and also power supply elements of transistorized inverters and voltage regulators. Operations of individual units in a transistorized frequency converter control system (master oscillator, phase shifters and control signal shapers) are analyzed. A. A. Bulgakov and N. F. Il'inskiy provided comments and assistance in editing the book. There are 31 references: 26 Soviet and 5 non-Soviet

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L 05058-67

ACC NR: AM6014902

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SUB CODE: 09/ SUBM DATE: 08Dec65/ ORIG REF: 026/ OTH REF: 005

L 09934-67 EWT(1)
ACC NR: AP6021059 (A, N) SOURCE CODE: UR/0292/66/000/003/0033/0035

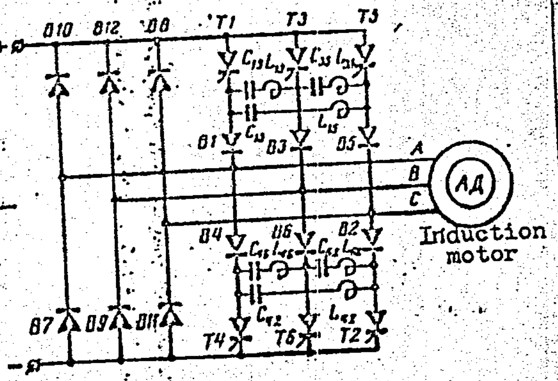
AUTHOR: Sandler, A. S. (Professor); Gusyatskiy, Yu. M. (Engineer); Zel'din, V. Sh. (Engineer); Shchukin, G. A. (Engineer) 18

ORG: none

TITLE: Autonomous semiconductor inverter 25

SOURCE: Elektrotekhnika, no. 3, 1966, 33-35

TOPIC TAGS: semiconductor inverter, dc ac power inverter, electric converter, rotary inverter



Inverter with LC-circuit switching

ABSTRACT: A modification (see figure) of a power inverter developed earlier by V. F. Shukalov (Trudy LIAP, 1962, no. 36) is described. The distinguishing feature of the new type lies in the fact that the current-limiting reactors are placed in series with the switching capacitors. The switching-process theory is briefly considered. An experimental model of the inverter was

UDC: 621.314.58.313.333.2

Card 1/2

L 09934-67

ACC NR: AP6021059

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tested in supplying a 220/380-v, 28-kw induction motor at 5, 10, 30, and 50 cps; speed-torque characteristics are shown. These findings are reported: (1) The inverter with oscillatory switching circuits is a practical device which can be used for supplying induction motors up to 20—30-kw capacity; (2) Placing the current-limiting reactors in the switching circuits has resulted in (a) reduction of size and weight of the inverter and (b) lower rate of rise of current in thyristors. Orig. art. has: 5 figures and 13 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 001

L 10020-67 EWT(1)
ACC NR: AP6023614 (A, N) SOURCE CODE: UR/0105/66/000/007/0060/0065

13

AUTHOR: Sandler, A. S. (Doctor of technical sciences, Professor); Gusyatskiy, Yu. M. (Engineer); Shchukin, G. A. (Engineer)

ORG: Moscow Power-Engineering Institute (Moskovskiy energeticheskiy institut)

TITLE: Thyristor-type pulse voltage regulators

25

SOURCE: Elektrichestvo, no. 7, 1966, 60-65

TOPIC TAGS: voltage regulator, thyristor

ABSTRACT: Thyristor-type pulse d-c voltage regulators are investigated. The simplest circuit (see Fig. 1) comprises: T1 - power thyristor, T2 - auxiliary thyristor, C - switching capacitor, r - auxiliary resistor, R - load. Better efficiency and regulation can be obtained from a modified circuit (see Fig. 2 where: T1 - power thyristor, T2 - auxiliary thyristor, L and C - switching circuit, R - load. Another regular circuit ("SCR Designer's Hand book," Westinghouse, 1st Ed.) has no power-

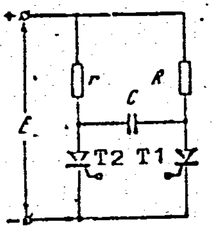

Fig. 1

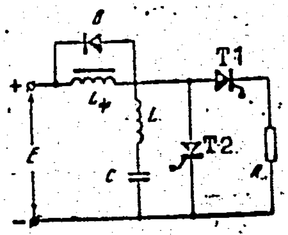

Fig. 2

Card 1/2 UDC: 621.316.722

ACC NR: AP6023614

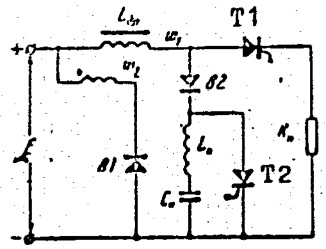

Fig. 3

limiting reactor; it has smaller size and weight, but also a narrower regulation range. It is claimed that an improved circuit (see Fig. 3) has the best characteristics. The pulse d-c voltage regulators have these advantages over controlled rectifiers: (1) Fewer number of power thyristors required and (2) Possibility of using higher thyristor-switching frequency, hence smaller size of filtering components. Orig. art. has: 8 figures and 51 formulas.

SUB CODE: 09 / SUBM DATE: 30Mar65 / ORIG REF: 002

Card 2/2 egk

UR/

ACC NR: AM6030069 Monograph

Sandler, Abram Solomonovich

Controlling the rotational speed of high-power induction motors (Regulirovaniye skorosti vrashcheniya moshchnykh asinkhronnykh dvigateley) Moscow, Izd-vo "Energiya," 1966. 319 p. illus., biblio. 9000 copies printed.

TOPIC TAGS: electric drive, induction motor, voltage stabilization, speed regulator

PURPOSE AND COVERAGE: This book is intended for engineers, technicians, and advanced students concerned with the design, operation and maintenance of industrial automatic electric drives. Various systems of high-power controlled electric drives for asynchronous motors with collector rings are discussed. Static and dynamic conditions of control systems are analyzed. Technical and economical charac- teristics of ac-controlled drives are listed and practical recom- mendations on their use are given. S. Z. Barskiy provided comments and advice; R. S. Sarbatov edited the manuscript.

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UDC: 621.313.333

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AVAILABLE: Library of Congress

SUB CODE: 09/ SUBM DATE: 16Feb66/ ORIG REF: 027/ OTH REF: 010

Card 4/4

CHILIKIN, Mikhail Grigor'yevich; GEYLER, L.B., prof., retsenzent;
SANDLER, A.S., dotsent, red.; BORUNOV, N.I., tekhn.red.

[General course on electric driving] Obshchii kurs elektroprivoda.
Izd.3., dop. i perer. Moskva, Gos.energ.izd-vo, 1961. 471 p.
(MIRA 14:6)

(Electric driving)

SANDLER, B.I., inzh.

Dynamically balanced removable card clothing for carding machines. Tekst. prom. 20 no. 12:63-65 D '60. (MIRA 13:12)
(Carding machines)

ZINGER, Y.F. [Zinher, Kh.M.]; SANDLER, E.S. [redacted]

Some results of industrial testing of polyacrylamide for yarn sizing. Leh.prom. no.3:29-32 Jl-S '63. (MIRA 16:11) [illegible], Z.S.; LITVINENKO, A.A.; SAIDLER, F.S.

Solutions of acetic and chloracetic acids in dioxane. Urk. khim. zhur. 27 no. 1:50-54 '61. (MIRA 14:2)

1. Chernovitskiy gosudarstvennyy universitet, kafedra fizicheskoy khimii.
(Acetic acid) (Dioxane)

ZINGER, Kh.M.; SANDLER, F.S.; PREPELITSKAYA, A.M. [Prepelyts'ka, A.M.]

Use of polyacrylamides for sizing. Leh.prom. no.4:23-24 O-D '62. (MIRA 16:5)

(Sizing (Textile)) (Acrylamide)

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

30

Microporous rubber sole. G. Sandler. *J. Rubber Ind.* (U.S.S.R.) 1936, 69-71.—A crit. discussion of the Pisarenko formula for microporous rubber sole (cf. preceding abstr.). Instead of the emulsion, S. used a paste of $NaHCO_3$ 60, Agerite 8, paraffin 2, glue 12 and liquid petrolatum 18% (12-4% on the rubber). A detailed description of plasticization, mixing, calendering and vulcanization is given.

A. Pestoff

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SANDLER, G.A., glavnyy inzhener.
[redacted]

Let's mechanize production. Leg.prom. 7 no.10:9 O '47. (MLRA 6:11)

1. Ivanovskiy KIP. (Machinery in industry)

SOV/81-59-10-37136

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 532 (USSR)

AUTHORS: Drubetskaya, T.Ye., Shikher, A.G., Sandler, G.A., Bedrinskaya, Ye.M.

TITLE: Control of Pore-Forming Substances in Technological Process of Microporous Rubber 15 Production

PERIODICAL: Byul tekhn.-ekon. inform. Sovnarkhoz Ivanovsk. ekon. adm. r-na, 1958, Nr 3, pp 14-17

ABSTRACT: A method has been developed for the evaluation of pore-forming substances from the value of the "lifting force", i.e. the height of lifting of the indicator rod placed on the sample of a rubber mixture which is subjected to heating. The device makes it possible to determine the initial and the final temperature of decomposition of pore-forming agents in the mixture. The behavior of $NaHCO_3$ and the porophore ChKhZ-5 in rubber mixtures for microporous soles has been investigated. Their combination shows the best pore-formation, technological and physical-mechanical properties.

V. Vakula

Card 1/1

SANDLER, G.A.

FEDENYUK, V.G., kand. tekhn. nauk; BUNINA, Ye.D., inzh.; SANDLER, G.A., inzh.

Preparing polyvinyl-butyral glue film on calenders. Leg. prom. 18 no.2:19-20 F '58. (MIRA 11:2)

(Glue)

SANDLER, G.

CHERNYAK, Semen Natanovich, kand.tekhn.nauk; KARASEVICH, Viktor Ivanovich, inzh.; POSTNIKOV, N.N., inzh., retsenzent; SANDLER, G.G., inzh., retsenzent; MILLER, L.Ye., red.; NIKONOROVA, N.A., red.; EL'KIND, L.M., red.; KARASEV, A.I., tekhn.red.

[The manufacture of foil] Proizvodstvo fol'gi. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 271 p. (MIRA 11:1)

(Metal foils)

YAVORKOVSKIY, L.I.; PURNE, S.Ya.; SANDLER, G.P.; MEZHARAUPS, S.P. (Riga)

Case of an acquired hemolytic anemia with the presence of a complex of antibodies. Vrach.delo no.10:102-104 O '60. (MIRA 13:11)

1. Respublikanskaya klinicheskaya bol'nitsa imeni P.I.Stradynya i Respublikanskaya stantsiya perelivaniya krovi.

(ANEMIA)
(ANTIGENS AND ANTIBODIES)

YAVORKOVSKIY, L.I.; SANDLER, G.P.; SOLOVEY, D.Ya.; PAEGLE, A.G.

Problem of cryoglobulinemia. Terap.arkh. 33 no.1:96-101 '61.
(MIRA 14:3)

1. Iz gematologicheskogo otdeleniya (zav. - kand.med.nauk L.I. Yavorkovskiy) Respublikanskoy klinicheskoy bol'nitsy imeni P. Stradynya.

(GLOBULIN)

SANDLER, G.P.

Isohemagglutinin titer in hemoblastosis. Probl. gemat. i perel. krovi no.3:12-15 '65. (MIRA 18:10)

LERINMAN, S.M.; SANDLER, I.S., redaktor

[The Agarkov movement in the Ural Machine Building Plant] Agarkovskoe dvizhenie na Uralmashzavode. Sverdlovsk, Gos. nauchno-tekhnicheskoe izd-vo mashino-stroitel'noi lit-ry, 1946. 44 p. (MLRA 8:2)
(Sverdlovsk--Machinery industry) (Stakhanov movement)
(Factory management)

SANDLER, I. S

TIUNOV, V.F., prof., red.; MAKHANEK, K.S., dotsent, red.; NIKOLAYEV, S.F., assistent, red.; SANDLER, I.S., dotsent, red.; CHAZOV, B.A., dotsent, red.; GRAYEVSKIY, A.M., red.izd-va; NEUDAKINA, N.G., tekhn.red.

[Perm Province; nature, history, economy, culture] Permskaia oblst'; priroda, istoriia, ekonomika, kul'tura. Red.kollegiia K.S.Makhanek i dr. Perm', Permskoe knizhnoe izd-vo, 1959. 405 p. (MIRA 13:2)
(Perm Province--Economic conditions)

SANDLER, I.S.

Prospects for developing and distributing certain branches of industry in Perm Province. Uch. zap. Perm. gos. un. 15 no.2: 27-41 '60. (MIRA 14:12)

(Perm Province--Industries)

PAVLENKO, V., kand.tekhn.nauk; SANDLER, L., inzh; YERMOLENKO, S., kand.tekh. nauk

Most efficient parameters for a lumber barge with a capacity of 3000 tons. Rech.transp. 19 no.8:19-21 Ag '60. (MIRA 14:3)
(Barges)
(Lumber—Transportation)

PAVLENKO, V.; SANDLER, L.; VOROB'YEV, P.

Investigating the resistance and wake of 1000-ton capacity lighters in operation. Rech. transp. 20 no.9:31-33 S '61. (MIRA 14:9)

1. Novosibirskiy institut inzhenerov vodnogo transporta.
(Ship trials)

KISELEV, N., sud'ya vsesoyuznoy kategorii; SANDLER, L., sud'ya
respublikanskoy kategorii

Skill and techniques. Za rul.19 no.11:10-11 N '61.
(MIRA 14:12)

1. Trener avtomotokluba Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu, g. Leningrad (for Sandler).
(Motorcycle racing)

SANDLER, L.B.; LESYUKOV, V.A., kand.tekhn.nauk, red.

[Correction of propeller screw elements according to the results of full-scale trials] Korrektirovka elementov grebnykh vintov po rezul'tatam naturnykh ispytanii. Novosibirsk, 1962. 25 p. (Novosibirsk. Institut inzhenerov vodnogo transporta. Trudy, no.2). (MIRA 16:5)

(Propellers—Design and construction) (Ship trials)

SANDLER, L.B., inzh.

Calculations of a water-jet propeller with a semisubmerged ejection of the water jet. Trudy NIIVTa no.10:128-133 '62.
(MIRA 16:6)

(Ship propulsion)
(Water jet)

SANDLER, L.B., inzh.

Approximate formulas for ship propellers without nozzles.
Trudy NIIVTa no.14:18-22 '63. (MIRA 17:4)

L 32774-66 JXT(cz)

SOURCE CODE: UR/3191/64/000/015/0090/0123

ACC NR: AT6014309 (N)

7

B+1

AUTHOR: Sandler, L. B.

ORG: none

TITLE: Theoretical investigation of the effect of geometric parameters of short high-speed shrouds on the performance of a screw on nozzle unit

SOURCE: Novosibirsk. Institut inzhenerov vodnogo transporta. Trudy, no. 15, 1964. Gidromekhanika sudna (Hydromechanics of ships), 90-123

TOPIC TAGS: propeller velocity, screw propeller, propeller shroud unit, shrouded propeller

ABSTRACT: The effect has been studied of the geometric parameters of short high-speed propeller shrouds on the distribution of nozzle-induced velocities over the propeller disk. The results of the investigation were presented in diagrams by means of which nozzle-induced velocities, average propeller-disk velocity, and rated speed of the equivalent nonshroud and the suction coefficient can be determined as functions of the propeller load and the geometric parameters of the shroud. The results of the investigation can be used for designing high-speed shrouded propeller units for passenger river boats. Orig. art. has: 38 figures, 27 formulas, and 1 table. [Based on author's abstract.] [NT]

23

26

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 020/ OTH REF: 002

UDC: 532.525.001.5

Card 1/1 JS

L 36286-66 EWT(m)/EWP(k)/T-2/EWP(w)/EWP(v) IJP(c) EM

ACC NR: AT6014310 (N) SOURCE CODE: UR/3191/64/000/015/0124/0130

43

AUTHOR: Sandler, L. B.

ORG: none

TITLE: Experimental investigation of the oncoming flow through a high-speed shrouded propeller 4

SOURCE: Novosibirsk. Institut inzhenerov vodnogo transporta. Trudy, no. 15, 1964. Gidromekhanika sudna (Hydromechanics of ships), 124-130

TOPIC TAGS: nozzle flow, ship component, ship propeller, shrouded propeller

ABSTRACT: Experimental model investigations of a oncoming flow through a high-speed propeller shroud have been carried out. The dependence of the flow through the shroud on the geometric parameters and the propeller was determined. Diagrams, which represent these functions, show that the experimental data are in agreement with the corresponding theoretical results obtained by the author in previous works. Orig. art. has: 12 figures, 1 formula, and 1 table. [Based on author's abstract.] [NT]

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

UDC: 532.525.001

Card 1/1

L 32775-66

ACC NR: AT6014311 (N) SOURCE CODE: UR/3191/64/000/015/0131/0136

58

B+1

AUTHOR: Sandler, L. B.

ORG: none

TITLE: Effect of viscosity on the efficiency of high-speed shrouded propellers

SOURCE: Novosibirsk. Institut inzhenerov vodnogo transporta. Trudy, no. 15, 1964. Gidromekhanika sud (Hydromechanics of ships), 131-136

TOPIC TAGS: fluid viscosity, laminar boundary layer, turbulent boundary layer, propeller rotation, nozzle flow, ideal fluid, screw propeller

ABSTRACT: An integral relationship is obtained by the author for the boundary layer of a shroud during propeller[14] rotation, as well as a principal solutions for laminar and turbulent boundary layers. Theoretical relationships to numerical computation of the shroud boundary layer were obtained, and, as a result of this, the conclusions were reached concerning the viscosity effect on resistance. The equation for any shroud drag on the unit was determined. Analysis showed that the main factor which determines the separation of the boundary layer at the inner surface of the shroud is an increased positive gradient in pressure toward the end of the nozzle due to propeller[27] rotation. Separation of the boundary layer is always observed for short shrouds in standing tests. Determination of the section coefficient for short shrouds, based on the theory of the complex work in an ideal liquid only

UDC: 532.525.001.5

Card 1/2

L 32775-66

ACC NR: AT6014311

gives the results of such an increase. The viscosity effect is gegligible when there is no separation of the boundary layer. The separation of the boundary layer is not observed for long shrouds with small diffusion in standing tests. In this case, the theory of the ideal unit gives the results near reality. Orig. art. has: 8 formulas. [Based on author's abstract.] [NT]

SUB CODE: 13/ 20/ SUBM DATE: none/ ORIG REF: 004/

Card 2/2 JS

ACC NR: AR7006750 (N) SOURCE CODE: UR/0398/67/000/001/A014/A014

AUTHOR: Sandler, L. B.

TITLE: Preliminary-design power determination for the main power plant of a displacement ship with screw propeller

SOURCE: Ref. zh. Vodnyy transport, Abs. 1A42

REF SOURCE: Tr. Novosib. in-ta inzh. vodn. transp., vyp. 25, 1966, 24-30

TOPIC TAGS: ship, marine engineering, marine engine, ship propeller

ABSTRACT: For determining the power in preliminary designs it is suggested to use the formula $xNe = C \cdot 1000Dv/75$ (D = displacement in tons; v = speed in m/sec; xNe = total hp of the power plant; C - coefficient in dependent on the Fronde number), instead of the Admiralty coefficient formula. A curve gives values for C. The probability of error where using the proposed formula does not exceed 13%. The formula is recommended for design purposes in planning displacement ships with screw propellers. [GE]

SUB CODE: 13,11/ SUBM DATE: none/

UDC: 629.12.001.2

Card 1/1

PAVLENKO, V.G., kand.tekhn.nauk; SANDLER, L.B., inzh.; YERMOLENKO, S.D., kand.tekhn.nauk

Determining the resistance of barges and barge trains by the results of model testing in wind tunnels. Trudy NIIVTa no.14: 3-17 '63. (MIRA 17:4)

L 46708-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) GG/JD/GD

ACC NR: AT6020705 (N) SOURCE CODE: UR/0000/65/000/000/0071/0083

AUTHOR: Lesnik, A. G.; Sandler, L. M.

54

ORG: Institute of Metal Physics AN UkrSSR (Institut metallofiziki AN UkrSSR) B+1

TITLE: Investigation of the influence of tensile stresses on the coercive force and the anisotropy field of permalloy films

SOURCE: AN UkrSSR. Fizika metallicheskikh plenok (Physics of metal films). Kiev, Naukova dumka, 1965, 71-83

TOPIC TAGS: magnetic thin film, permalloy, magnetic anisotropy, magnetic coercive force, magnetic domain structure, ferromagnetic resonance, tensile stress

ABSTRACT: The purpose of the investigation was to check experimentally some of the published theoretical hypotheses concerning the relation between the coercive force of a thin permalloy film and the dimensions of its domain boundaries as well as the properties of the substrate, as manifest by the effect of tensile stresses on the properties of the film and on the amplitude dispersion of the anisotropy field. To this end, the authors measured the corecive force, the mean value of the anisotropy field, the rms angular dispersion of the anisotropy field, and the rms amplitude dispersion of the anisotropy field of 24 films, using ferromagnetic-resonance apparatus and a procedure described in a preceding article in the same source (p. 59). Plots of the measured quantities against the applied stress were obtained for all films. The results show that at low stresses the prevailing hypotheses agree with the hither-

Card 1/2

ACC NR: AT6020705

to assumed linearity of the coercive force in the applied tensile stress, but with increasing stress the linearity disappears, and the deviation is interpreted from the point of view of changes occurring in the domain structure of the film and the dispersion of the anisotropy field. The latter may be affected by mechanical or chemical inhomogeneities. The observed changes in the heights of the dispersion curves and the size of the area under them with increasing stress can not be fully explained at present and calls for additional research. Orig. art. has: 7 figures and 6 formulas.

SUB CODE: 20/ SUBM DATE: 15Dec64/ ORIG REF: 004/ OTH REF: 002

Card 2/2 fv

AVAK'YANTS, G.M.; MURYGIN, V.I.; SANDLER, L.S.; TESHABAYEV, A.; YUROVSKIY, A.V.

Properties of an electron-hole junction in the straight-line direction at large current densities. Radiotekh. i elektron. 8 no.10:1776-1782 O '63. (MIRA 16:10)

AVAK'YANTS, G.M.; MURYGIN, V.I.; SANDLER, L.S.; TESHABAYEV, A.;
YUROVSKIY, A.V.

Straight branch of the voltampere characteristic of thin diodes at high injection levels. Radiotekh. i elektron. 8 no.11:1919-1926 N '63. (MIRA 17:1)

SANDLER, M.

New curriculum for construction workers. Prof.-tekh. obr. 18
no. 3:12-13 Mr '61. (MIRA 14:4)

1. Direktor Cherepovetskogo stroitel'nogo uchilishcha No.2, g.
Cherepovets.
(Building trades--Study and teaching)

SANDLER, M. A.

Sugar - Manufacutre and Refining

Lenin Sugar Factory builds up its productive capacity. Sakh. prom. 26 No. 6, 1952

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

SANDLER, M.A.

[redacted]

Case of tuberculous cerebral sclerosis, cardiac rhabdomyoma and adenosarcoma of the kidneys. Pediatriia no.2:65-67 F '57.
(MIRA 10:10)

1. Iz patologoanatomicheskogo otdeleniya detskoy gorodskoy bol'nitsy No.9 imeni Dzerzhinskogo (glavnyy vrach A.N.Kudryashova)
(BRAIN--DISEASES) (HEART--TUMORS) (KIDNEYS--CANCER)

SANDLER, M.S.; CHIRKOV, A.I.; SIZOV, N.T.

Concerning A.B.Topolianskii's article "Problems of safety in electrical systems of the construction industry." Prom.energ. 19 no. 4:59-60 Ap '64. (MIRA 17:5)

1. Obukhovskiy domostroitel'nyy kombinat Glavnogo upravleniya po zhilishchnomu, grazhdanskomu i promyshlennomu stroitel'stvu Leningradskogo gorodskogo ispolnitel'nogo komiteta (for Sandler, Chirkov). 2. Noginskaya elektroset' Moskovskogo oblastnogo ekspluatatsionno-energeticheskogo upravleniya (for Sizov).

SANDLER, N. I.

232T103

USSR/Physics - Monochromatic X-ray Sources May/Jun 52

"Rapid (Sharp-Focus) X-ray Tube for Inverse Photographs and Its Application to Roentgenography at Room and High Temperatures," N. I. Sandler; Ukrainian Sci-Res Inst of Metals

"Iz Ak Nauk SSSR, Ser Fiz" Vol 16, No 3, pp 344-349

Report heard at the conference on powerful monochromatic x-ray sources, held at Khar'kov 24-26 Jan 52. Describes work done at the x-ray

232T103

laboratory of subject institute on the use of sharp-focus x-ray tube for rapid-precision photographing of samples at room and higher temps. Describes subject tube and its advantages over the tube designed by B. Ya. Pines.

232T103

SANDLER, M. I. --

"X-Ray Diffraction Investigation of Distortion of the Crystal Lattice in Technically Pure Cold-Rolled Iron and Aluminum." Cand Phys-Math Sci, Khar-Kov State U, Khar'kov, 1954. (RZhKhim, No 20, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

SANDLER, N.I.; LEVIKOV, Ye.A.; KOTKIS, M.A.

Effect of arsenic admixtures on the acidity of steel and iron.
Fiz.met.i metalloved. 1 no.3:523-528 '55. (MLRA 9:6)

1.Ukrainskiy nauchno-issledovatel'skiy institut metallov.
(Iron-arsenic alloys)

SANDLER, N. I.

Metal

1

X-Ray Camera for Photographing Rotating Sections. N. I. Sandler. (*Zavodskaya Laboratoriya*, 1955, 23, (6), 735–736). [In Russian]. The X-ray camera described can be used for obtaining X-ray diffraction pictures of massive rotating surfaces. A pattern obtained with a nitrided steel specimen is illustrated.—S. K.

Ukr. Sci. Res. Inst. Metallurgy

SANDLER, N.I.

KHODULIN, A.K. [deceased]; SANDLER, N.I.

The MSh-70 machine developed by the Ukrainian Scientific-Research Institute of metals for testing thin metal sheets by the biaxial tension method. Zav.lab. 22 no.10:1241-1244 '56. (MLRA 10:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i zavod "Zaporozhstal'".

(Metals--Testing)
(Testing machines)

137-58-5-11052

SANDLER, N.I.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 308 (USSR)

AUTHOR: Sandler, N.I.

TITLE: On the Operation of X-ray Laboratories in Metallurgical Plants of the Ukraine (O rabote rentgenovskikh laboratoriy metallurgicheskikh zavodov Ukrainy)

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1957, Nr 2, pp 82-84

ABSTRACT: A survey of work performed in X-ray laboratories of three plants in the field of technology of metallurgical processes, corrosion research, work hardening, finished production, etc.
R.O.

1. Metallurgy 2. X-rays-laboratories--Applications

Card 1/1

137-58-6-13410

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 324 (USSR)

AUTHORS: Kurmanov, M. I., Govor, U. S., Dobruskina, Sh. R., Sandler, N. I., Solov'yeva, G. G., Filippova, T. F.

TITLE: The Effect of Arsenic on Properties of High-strength Steels 12KhN3A, 30KhN3A, and 18KhN3A (Vliyaniye mysh'yaka na svoystva vysokoprochnykh staley 12KhN3A., 30KhN3A i 18KhN3A)

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1957, Nr 3, pp 59-75

ABSTRACT: Investigations were performed in order to study the effect of As, in amounts up to 0.3%, on the mechanical properties and the macro-and micro structure of steels 12KhN3A, 30KhN3A, and 18KhN3A, as well as on the composition of their carbide phases, their temper brittleness, cementation, nitriding, isothermal decomposition, etc. It was established that As produces a banded structure which cannot be eliminated by standard heat-treatment procedures, and that it increases the amount of Ni present in the carbide phase; As has virtually no effect on the mechanical properties of steel, but

Card 1/2

137-58-6-13410

The Effect of Arsenic on Properties of High-strength Steels (cont.)

increases its tendencies toward reversible and irreversible temper brittleness, favors the decomposition of austenite, and inhibits the process of cementation. Nitriding of As steel produces a friable layer of ε phase and the hardness is sharply reduced. It is concluded that As impairs the properties of the steels investigated and, therefore, may only be employed in quantities not exceeding a few hundredths of one percent. Bibliography: 7 references.

P. V.

1. Steels--Properties 2. Arsenic--Metallurgical effects 3. Steels--Test results

Card 2/2

SOV/137-58-10-20850

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 71 (USSR)

AUTHORS: Sandler, N.I., Solov'yeva, G.G.

TITLE: The Nature of Dead Spots on Terne Plate (K voprosu o prirode "tsvetnogo nadava" zhesti)

PERIODICAL: V sb.: Metallovedeniye i term. obrabotka. Moscow, Metallurgizdat, 1958, pp 247-250

ABSTRACT: An investigation is made of the nature and reasons for the appearance of dead spots on the surface of terne sheets. Dead spots consist of exceedingly fine films of oxides which come into being during the process of annealing. The oxides yield to pickling with difficulty and can only be removed by polishing. The structure at the surface of a defective sheet consists of grains of ferrite of various dimensions, with ill-defined boundaries. The structure of the metal beneath the film of oxide is analogous to the structure of normal portions of the sheet. The microhardness of the defective spot (219 kg/mm^2) is 19 kg/mm^2 higher than that of the base metal. F.U.

Card 1/1

1. Metals--Coatings 2. Metals--Heat treatment 3. Coatings--Analysis 4. Oxide films--Properties

SANDLER, N.I.; AKHMECHET, Zh.N.

Reciprocal lattice photography with an independently chosen standard at low temperatures. Zav. lab. 24 no.5:647-648 '58.
(MIRA 11:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.
(Metallography)

SANDLER, N.I., kand.fiz.-mat.nauk; KULOL', V.V., inzh.

Causes of nonuniform scale removal in the process of pickling
hot-rolled strips. Trudy Ukr.nauch.-issl.inst.met. no.5:
302-305 '59. (MIRA 13:1)
(Steel--Corrosion) (Metals--Pickling)

S/126/60/010/005/025/030
E111/E452

AUTHORS: Golik, V.R., Dubrov, V.A., Sandler, N.I. and Kukol', V.V.

TITLE: Influence of Vanadium on Phase Transformations in Manganese Steel

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.5, pp.786-790

TEXT: The authors give results of a study of the influence of vanadium on the kinetics of the decomposition of the solid solution, carbide formation and solution of vanadium carbides in manganese steel. Three types of steel with about 0.15% C and 1.5% Mn were used: type Φ57 (F57) had a vanadium content of 0.57%, corresponding to the stoichiometric composition of vanadium carbide; Φ11 (F11) corresponding to that in production heats (0.11% V); and the third type Φ0 (F0) had no vanadium. Blanks (20 x 20 x 8 mm bars and 8 x 80 mm cylinders) from hot-rolled strip were cut along the direction of rolling and hardened from 1200°C in water at 4°C. The blanks were then reheated to 100 to 1200°C, again quenched and cut into specimens, from which the

Card 1/2

S/126/60/010/005/025/030
E111/E452

Influence of Vanadium on Phase Transformations in Manganese Steel

decarburized layer was removed. Phase changes were studied by measuring electrical resistivity, coercive force, hardness and integral half width of X-ray diffraction lines. In the X-ray investigation, published methods (Ref.4,5) were used. Resistivity, coercive force and Rockwell hardness are shown in Fig.1, 2 and 5 respectively, as functions of reheating temperature for each of the steels. Fig.4 shows for type F57 steel the values of Vickers hardness and integral half-width as functions of reheating temperature. The results indicate that the effects of vanadium in steels with the manganese content used are similar to those in steels with the usual (0.5% approx) manganese content. There are 5 figures, 1 table and 7 references: 6 Soviet and 1 Non-Soviet.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut metallov (Ukrainian Metals Research Institute)

SUBMITTED: May 9, 1960

Card 2/2

SANDLER, N.I.; KUKOL', V.V.

X-ray study of the effect of titanium on the properties and structure of low-alloy **manganese** (1.5 percent manganese) steel. Trudy Ukr. nauch.-issl.inst.met. no.6:230-237 '60. (MIRA 14:4)
(Maganese steel--Metallurgy) (Titanium)

SANDLER, N.I.; GUNIN, I.V.

X-ray determination of first order residual stresses in new, economical I-beams and channels. Trudy Ukr. nauch.-issl. inst. met. no.6:299-308 '60. (MIRA 14:3)
(Girders--Testing)
(Strains and stresses)

SANDLER, N.I.

X-ray study of the effect of arsenic on the structure and properties of nitrided layers on steel. Trudy Ukr. nauch.-issl. inst. met. no.6:249-259 '60. (MIRA 14:3)
(Steel--Metallography) (Case hardening)

S/137/62/000/002/117/1
A060/A101

AUTHORS: Orlov, A. V., Sandler, N. I., Kukol', V. V., Aleksandrova, N. P., Govor, U. S.

TITLE: Investigation of the borated layer of medium-carbon steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 105, abstract 2I709 ("Sb. tr. Ukr. n.-i. in-t metallov", 1961, no. 7, 232 - 244)

TEXT: Using the methods of microscopic and X-ray structure analysis, an analysis was carried out of the structure of borated layer of steel 40 subjected to borating by the method of electrolyzing molten borax at 960°C at a current density of 0.2 ampere/cm^2 and 5-hour duration. The structure of the borated layer of steel 40 consists of the α-phase, carbide B_4C, borides FeB and Fe_2B, which, as one recedes from the surface, appear in the following order: α-Fe, B_4C, borides. The microhardness has the greatest value at the surface and decreases gradually with approach to the base metal. There are 16 references.

T. Fedorova

[Abstracter's note: Complete translation]

Card 1/1

SANDLER, N.I.

Focusing Debye spectrum lines on a bent film in making a reciprocal lattice photography. Zav.lab. 27-no.6:755-758 '61.
(MIRA 14:6)

1. Ukraninskiy nauchno-issledovatel'skiy institut metallov.
(X-ray spectroscopy) (Metals--Testing)

S/126/62/014/004/011/017
E073/E535

AUTHORS: Golik, V.R., Dubrov, V.A., Sandler, N.I. and Yunash, V.M.

TITLE: Solution and formation of niobium carbide in low-carbon manganese steel

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.4, 1962, 555-558

TEXT: The temperature of solution of niobium carbide in low-carbon manganese steel, as well as the rejection of a special carbide during tempering, was investigated for several heats produced in a 250 kg induction furnace with a basic crucible. Composition (wt.%): 0.16/0.15 C, 0.75/1.28 Mn, 0.26/0.29 Si, 0.036/0.050 S, 0.020 P and 0.08-0.29 Nb. The produced 65 kg ingots were rolled into 11 x 70 mm strip from which 80 x 5.5 mm cylindrical and 10 x 10 x 5 mm polished specimens were cut in the longitudinal direction. The carbide transformations were studied by electron diffraction (reflection method) by measuring the electric resistivity (accuracy ±1.5%), the coercive force (ballistically, accuracy ±1%) and the Vickers hardness on specimens in the following states: hardened in water from 600,700,

Card 1/3

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ial carbide. In all the

S/196/63/000/002/007/026
E194/E155

AUTHORS: Sandler, N.I., and Murav'yev, V.N.

TITLE: The structure of electrically insulating coatings on transformer steel

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1963, 9-10, abstract 2 B 62. (Sb. tr. Ukr. n.-i. in-t metallov, no.8, 1962, 274-290)

TEXT: Coating sheet transformer steel with a thin film of silicaceous substance has advantages due to the thermal stability and good electrical insulating properties of silicate enamels. Their properties depend not only on their composition but also on their treatment after application (temperature and duration of heating, composition of atmosphere, etc). Bonding between the enamel and the steel is ensured by using binders (oxides of cobalt and nickel). Their action is that during heating, the oxygen in them combines with iron. Iron oxide is formed and dissolves in the enamel; the cobalt and nickel have anodic action on the iron, which becomes pitted, so that the enamel binds to it better. A black colour is obtained by a mixture of oxides of Cr, Ni, Fe,

Card 1/2

The structure of electrically ... S/196/63/000/002/007/026
E194/E155

Mn and others, which form solid solutions or compounds of the spinel type having magnetic properties. Results are given of a study of the chemical and phase composition of four types of silicate enamel insulating coatings on transformer steel. Materials were studied directly on specimens and after removal of the enamel from the sheets. The studies were made by chemical, spectrographic, metallographic, petrographic and X-ray methods. Photographs and photo micrographs are given with the results. It was established that the coating materials of all the specimens had the same mineralogical structure. The fundamental components of most specimens were amorphous glass and silicates of Mg and Ni; the composition of coatings on different specimens differed mainly in the quantitative proportions of these components which form combined paragenetic finely dispersed intergrowths. The crystal phase common to all the specimens was an orthosilicate of magnesium, forsterite Mg_2SiO_4. The presence in the coating analysis of nickel orthosilicate improves adhesion of the coating to metal.
9 figures. 2 references.

[Abstractor's note: Complete translation.]

Card 2/2

S/032/63/029/003/005/020
B117/B186

AUTHORS: Gurevich, A. B., Kirzhner, O. M., Sandler, N. I., and Murav'yev, V. N.

TITLE: Determination of cerium-containing inclusions in alloy steels

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 3, 1963, 283-286

TEXT: Cerium compounds formed by introducing small amounts of cerium in alloy steels were investigated. Steels containing 0.05 - 0.12% Ce, 0.60% Mn, 0.30 - 0.40% C, and 0.3% S were used. The nonmetallic phase was separated by dissolving the steel specimens in the usual iron sulfate electrolyte with complex formers. The anode slime was first treated with 30% copper ammonium chloride solution containing 1% $FeSO_4$ and 5% ammonium citrate, and then with iodine solution in potassium iodide; subsequently, the slime was studied petrographically and by x-ray analysis. Cerium compounds were found in the form of sulfides (CeS, Ce_2S_3) in the steels investigated; no oxysulfide compounds were detected. Since cerium sulfides, soluble in hydrochloric acid, are insoluble in iodine solution, they can

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be easily separated from iron and manganese sulfides. The amount of cerium inclusions in the steel was independent of the total cerium content. This was due to the high degree of liquefaction of cerium sulfides and their irregular distribution over the cross section of specimens. The electrolyte residues contained much more cerium than the sulfide phase. Cerium was irregularly distributed in the sulfide and the carbide phase. In the carbide phase, it was contained in the cementite lattice which was confirmed by x-ray analysis. There are 5 figures and 3 tables.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut metallov
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Defects in manganese-aluminum steel slabs. Met. i gornorud. prom. no.1:62-66 Ja-F '63. (MIRA 16:4)

1. Ukrainskiy institut metallov.

(Steel ingots—Defects)

DOBRUSKINA, Sh.R.; SANDLER, N.I.; ZADOROZHNAYA, L.K. [Zadorozhnia, L.K.]
FEL'DMAN, E.I.; YUNASH, V.M.

Microalloying of low-carbon manganese steel with hafnium. Dop. AN URSR no. 12:1595-1599 '64. (MIRA 18:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov. Predstavleno akademikom AN UkrSSR V.N.Svechnikovym [Sviechnikov, V.M.].

SANDLER, N.I.; DOBRUSKINA, Sh.R.; ZAYKOV, S.T.; FEL'DMAN, Z.N.; ASNIS, A.Ye.; NAZARENKO, A.N.

Converter low-alloys steel with niobium for welded structures. Avtom. svar. 17 no.2:43-48 F '64. (MIRA 17:9)

1. Ukrainskiy institut metallov (for Sandler, Dobruskina, Zaykov, Fel'dman). 2. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR (for Asnis, Nazarenko).

ASNIS, A.Ye., doktor tekhn. nauk; SHAPOV, N.P., doktor tekhn. nauk; VOLOKHVYANSKAYA, E.S., kand. tekhn. nauk; KRAYCHIK, M.M., kand. tekhn. nauk; MAKSIMOV, V.N., kand. tekhn. nauk; SANDLER, N.I., kand. fiziko-metematicheskikh nauk

Arsenous low-alloy steel for car construction. Vest. TSNII MPS 23 no.5:27-31 '64. (MIRA 17:11)

1. Institut elektrosvarki imeni Patona UkrSSR, Ukrainskiy institut metallov i Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya.

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IJP(c) JD/JG
ACCESSION NR: AR5000593 S/0137/64/000/008/I044/I044

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SOURCE: Ref. zh. Metallurgiya. Sv. t., Abs. 8I286

AUTHOR: Navrotskiy, I. V.; Sandler, N. I.; Kurmanov, M. I.

TITLE: The nature of hardening of low alloy manganese steels by vanadium, niobium and tungsten 15

CITED SOURCE: Sb. tr. Ukr. n.-i. in-t metallov, vyp. 9, 1964, 377-393

TOPIC TAGS: vanadium 27 containing alloy, niobium 27 containing alloy, 27 tungsten containing alloy, manganese 27 containing alloy, manganese steel, metal hardening, steel hardening 14

TRANSLATION: The physical nature of the hardening of manganese steel alloyed with small additions of vanadium, niobium and tungsten has been investigated. For study of the effect of manganese on the hardening of low alloy steel, two groups of melts were made with identical contents of the alloying elements, but with a different content of manganese: high (1.3-1.5%) and low (0.5-0.7%). In

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addition, melts were made with different manganese contents, but without supplementary alloying. A study was made of the mechanical properties of the steel, the metallographic structure, the change in the width of X-ray interference lines, and the phase distribution of the alloying elements in the steel. The hardening of manganese steel, apart from fragmentation during the process of deformation, can be explained on the following basis: 1) microdistortions of the solid solution lattice (with alloying by small additions of vanadium), 2) microstresses in the solid solution lattice and change in the structure (on alloying with tungsten), 3) the effect of the carbide phase, with microstresses and the nature of the distribution of the alloying atoms in the solid solution lattice (on alloying with niobium. 19 literature titles.

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SANDLER, N.I.; GUREVICH, A.B.; NAVROTSKIY, I.V.; YUNASH, V.M.; TURUBINER,
L.M.; KIRZHNER, O.M.

Phase distribution of vanadium, tungsten, and niobium in low-alloy steels. Sbor. trud. UNIIM no.9:349-356 '64
(MIRA 18:1)